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10/661,003	09/11/2003	Hermann Jartyn	JARTYN	7480

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EXAMINER
RAPP, CHAD

ART UNIT	PAPER NUMBER
2125	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/661,003	JARTYN, HERMANN
Office Action Summary	Examiner	Art Unit	
	Chad Rapp	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 September 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *11/21/03*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1.   Claims 1-22 are presented for examination.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

do not include the following reference sign(s) mentioned in the description:

Specification page number 17 line 2 "StT3" is not displayed in figure 6 and specification

page 17 line 15 "SINo4" is not displayed in figure 7 . Corrected drawing sheets in compliance

with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures appearing

on the immediate prior version of the sheet, even if only one figure is being amended. The

replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR

1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted

by the examiner, the applicant will be notified and informed of any required corrective action in

the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 2-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

In claims 2, 3 and 5-8 "The automation system" should be changed to "An automation

system". There is insufficient antecedent basis for this limitation in claims 2, 3 and 5-8.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.   Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya

et al. in view of White, III et al.

Azarya et al. teaches the claimed invention (claim 1) substantially as claimed including

an automation device, for a machine tool, a production machine or a robot comprising:

a.   At least two components connected via a data link is taught as each Open bus

node controller is connected to the network(col. 8 lines 47-48);

b.   At least two sub components associable with a component is taught as coupled to

each Open bus node are sensors and I/O devices(col. 8 lines 56-57);

c.   Wherein the number of the data locations within a data message is adjustable is

taught as data is transmitted in variable length packages(col. 18 lines 2-3).

Azarya et al. teaches the above listed details of the independent claim 1, however, Azarya

et al. does not teach: wherein a data message, which includes for the components and a plurality

of data locations, can be sent between the at least two components and each of the data locations

is associatable with one of the sub-components.

White, III et al. teaches :

a.   Wherein a data message, which includes for the components and a plurality of data locations, can be sent between the at least two components is taught as a node uses process data object message to communicate configuration data to another node([0006]);

b.   Each of the data locations is associatable with one of the sub-components is taught as the ID identifies the slave device([0004]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al. because Modbus allows grouping of code messages reducing overhead information. Bandwidth usage is reduced. Network response time is improved. Modbus protocol is widely used, It allows the automation to use a plurality of network and network protocols.

As to claim 3, Azarya et al. teaches wherein the data locations have a standardized content is taught as Profibus standard networks(col. 2line 39 and col. 12 lines 49-56).

As to claim 4, Azarya et al. teaches wherein the standardized content comprises at least one of an actual value, a set point, a control word and a parameter is taught as data acquisition(col. 2lines 32-39).

As to claim 5, Azarya et al. teaches wherein a sub-component includes an axis or a transmitter is taught as transmitters(col. 7 lines 56-60).

As to claim 6, White, III et al. teaches wherein one component represents a master within the data link and at least one second component represents a slave within the data link is taught as master node is the network node issuing message, while the slave node is the receiver of that message([0006] and [0007]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al.

because Modbus allows grouping of code messages reducing overhead information. Bandwidth

usage is reduced. Network response time is improved. Modbus protocol is widely used, It

allows the automation to use a plurality of network and network protocols.

As to claim 7, Azarya et al. teaches wherein the data message has a programmable

variable length or a maximum length, or both is taught as data is transmitted in variable length

packets(col. 10 lines 2-3).

As to claim 8, White, III et al. teaches further comprising a message selection table that

includes messages selected from the group consisting of standard messages and user-defined

messages is taught as the table or OD contains data particular to the CANOpen devices where in

the CANOpen message embedded in the Modbus function command code ([0012]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al.

because Modbus allows grouping of code messages reducing overhead information. Bandwidth

usage is reduced. Network response time is improved. Modbus protocol is widely used, It

allows the automation to use a plurality of network and network protocols.

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya et al. in

view of White, III et al. and further in view of Smith et al.

Azarya et al. and White, III et al. teach the claimed invention (claim 1) see paragraph number 6

above.

As to claim 2, Smith et al. teaches wherein that data message is subdivided into channels, with the data of a channel being associated with a subcomponent is taught as communication includes an address bus and a database bus([00026]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of Smith et al. because it ensures reliable reception of the data intended by receiver. It uses Profibus data communication standard. Allows the system to be flexible because it can be used with various protocols.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya et al. in view of White, III et al.

Azarya et al. teaches the claimed invention (claim 9) substantially as claimed including a method for programming a data communication of an automation system, for a machine-tool, a production machine or a robot, the system comprising:

a.   At least two components connected via a data link is taught as each Open bus node controller is connected to the network(col. 8 lines 47-48);

b.   Adjusting the number of the data locations of the data message for those components that have at least two sub-components adjustable is taught as data is transmitted in variable length packages(col. 18 lines 2-3).

Azarya et al. teaches the above listed details of the independent claim 9, however, Azarya et al. does not teach: exchanging a data message that includes data locations and data for a component and associating each of the data locations with a respective one of the subcomponents in one-to-one correspondence.

White, III et al. teaches :

a.   Exchanging a data message that includes data locations and data for a component is taught as the ID, function code and data field is sent in the Modbus frame(message)([0004]);

b.   Associating each of the data locations with a respective one of the subcomponents in one-to-one correspondence is taught as the ID identifies the slave device([0004]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al. because Modbus allows grouping of code messages reducing overhead information. Bandwidth usage is reduced. Network response time is improved. Modbus protocol is widely used, It allows the automation to use a plurality of network and network protocols.

As to claim 11, Azarya et al. teaches wherein the data location includes a standardized content is taught as Profibus standard networks(col. 2line 39 and col. 12 lines 49-56).

As to claim 12, Azarya et al. teaches wherein the standardized content comprises at least one of an actual value, a set point, a control word and a parameter is taught as data acquisition(col. 2lines 32-39).

As to claim 13, Azarya et al. teaches wherein a subcomponent is programmed to represent an axis, a transmitter, cam connection, a terminal or another object is taught as transmitters(col. 7 lines 56-60).

As to claim 14, White, III et al. teaches wherein one component within the data communication is programmed as a master and at least one other component is programmed as a slave is taught as master node is the network node issuing message, while the slave node is the receiver of that message([0006] and [0007]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al. because Modbus allows grouping of code messages reducing overhead information. Bandwidth usage is reduced. Network response time is improved. Modbus protocol is widely used, It allows the automation to use a plurality of network and network protocols.

10.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya et al. in view of White, III et al. and further in view of Smith et al.

Azarya et al. and White, III et al. teach the claimed invention (claim 9) see paragraph number 9 above.

As to claim 10, Smith et al. teaches further including the step of subdividing the data message into channels using object separators, wherein the data message in a channel refers to a sub-component subcomponent is taught as communication includes an address bus and a database bus([00026]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made or used to modify the teachings of Azarya et al. with the teachings of Smith et al.

because it ensures reliable reception of the data intended by receiver. It uses Profibus data

communication standard. Allows the system to be flexible because it can be used with various

protocols.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

12. Claims 15 and 17-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya

et al. in view of White, III et al.

Azarya et al. teaches the claimed invention (claim 15) substantially as claimed including

a method for programming data communication of an automation system, for a machine-tool, a

production machine or a robot, the system comprising:

a.   At least two components connected via a data link is taught as each Open bus

node controller is connected to the network(col. 8 lines 47-48);

b.   Programming the automation system and the at least two components with an

engineering system is taught as MIS manufacturing inspection system and the MES

manufacturing execution system(col. 7 lines 23-39);

c.   Associating two sub-components with at least one component is taught as coupled

to each Open bus node are sensors and I/O devices(col. 8 lines 56-57).

Azarya et al. teaches the above listed details of the independent claim 15, however,

Azarya et al. does not teach: exchanging a data message that includes data locations and data for

a component, at least one component or sub-component including a predefined function,

automatically composing the data message and automatically associating a data location with one

of the sub-components when the data message is automatically composed.

White, III et al. teaches :

      a.   Exchanging a data message that includes data locations and data for a component

is taught as the ID, function code and data field is sent in the Modbus frame(message)([0004]);

      b.   At least one component or sub-component including a predefined function is

taught as subsystem is predefined to start and stop based on the function code([0004]);

      c.   Automatically composing the data message is taught as comprising date field , ID

and function code([0004]);

      d.   Automatically associating a data location with one of the sub-components when

the data message is automatically composed is taught as the ID (location) identifies the device

being set the message([0004]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al.

because Modbus allows grouping of code messages reducing overhead information. Bandwidth

usage is reduced. Network response time is improved. Modbus protocol is widely used, It

allows the automation to use a plurality of network and network protocols.

As to claim 17, Azarya et al. teaches wherein the data location includes a standardized

content is taught as Profibus standard networks(col. 2line 39 and col. 12 lines 49-56).

As to claim 18, Azarya et al. teaches wherein the standardized content comprises at least one actual value, a set point, a control word and a parameter is taught as data acquisition(col. 2lines 32-39).

As to claim 19, Azarya et al. teaches wherein a sub-component is programmed to represent an axis, a transmitter, a cam connection, a terminal or another object is taught as transmitters(col. 7 lines 56-60).

As to claim 20, White, III et al. teaches wherein one component within the data communication is programmed as a master and at least one other component is programmed as a slave is taught as master node is the network node issuing message, while the slave node is the receiver of that message([0006] and [0007]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al. because Modbus allows grouping of code messages reducing overhead information. Bandwidth usage is reduced. Network response time is improved. Modbus protocol is widely used, It allows the automation to use a plurality of network and network protocols.

13.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya et al. in view of White, III et al. and further in view of Smith et al.

Azarya et al. and White, III et al. teach the claimed invention (claim 15) see paragraph number 12 above.

As to claim 16, Smith et al. teaches further including the step of subdividing the data message into channels using object separators, wherein the data message in a channel refers to a sub-component is taught as communication includes an address bus and a database bus([00026]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of Smith et al. because it ensures reliable reception of the data intended by receiver. It uses Profibus data communication standard. Allows the system to be flexible because it can be used with various protocols.

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya et al. in view of White, III et al.

Azarya et al. teaches the claimed invention (claim 21) substantially as claimed including an engineering system for programming a data communication in an automation system, the automation system comprising:

a.   At least two components connected via a data link is taught as each Open bus node controller is connected to the network(col. 8 lines 47-48);

b.   Adjusting the number of the data locations of the data message for those

components that have each of the data locations is taught as data is transmitted in variable length

packages(col. 18 lines 2-3).

Azarya et al. teaches the above listed details of the independent claim 21, however,

Azarya et al. does not teach: exchanging a data message that includes data locations and data for

a component and with a respective one of the sub-components in one-to-one correspondence.

White, III et al. teaches :

a.   Exchanging a data message that includes data locations and data for a component

is taught as the ID, function code and data field is sent in the Modbus frame(message)([0004]);

b..   With a respective one of the sub-components in one-to-one correspondence is

taught as the ID identifies the slave device([0004]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al.

because Modbus allows grouping of code messages reducing overhead information. Bandwidth

usage is reduced. Network response time is improved. Modbus protocol is widely used, It

allows the automation to use a plurality of network and network protocols.

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

17.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azarya et al. in

view of White, III et al.

Azarya et al. teaches the claimed invention (claim 22) substantially as claimed including

an engineering system for programming a data communication in an automation system the

automation system comprising:

a.   At least two components connected via a data link is taught as each Open bus

node controller is connected to the network(col. 8 lines 47-48);

b.   Associating two sub-component with at least one component is taught as coupled

to each Open bus node are sensors and I/O devices(col. 8 lines 56-57).

Azarya et al. teaches the above listed details of the independent claim 22, however,

Azarya et al. does not teach: exchanging a data message that includes data locations and data for

a component, at lest one component or sub-components including is a predefined function,

automatically composing the data a message, automatically associating a data location with one

of the subcomponents when the data message is automatically composed.

White, III et al. teaches :

a.   Exchanging a data message that includes data locations and data for a

component is taught as the ID, function code and data field is sent in the Modbus

frame(message)([0004]);

b.   At lest one component or sub-components including is a predefined

function is taught as subsystem is predefined to start and stop based on the function

code([0004]);

           c.   Automatically composing the data a message is taught as comprising date field , ID and function code([0004]);

           d.   Automatically associating a data location with one of the subcomponents when the data message is automatically composed is taught as the ID (location) identifies the device being set the message([0004]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Azarya et al. with the teachings of White, III et al. because Modbus allows grouping of code messages reducing overhead information. Bandwidth usage is reduced. Network response time is improved. Modbus protocol is widely used, It allows the automation to use a plurality of network and network protocols.

Conclusion

18.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Rapp whose telephone number is (571)272-3752. The examiner can normally be reached on Mon-Fri 11:00-7:00.
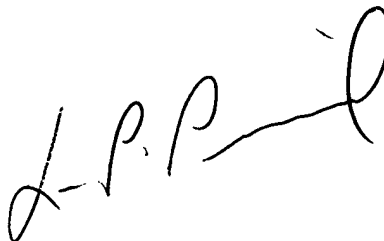
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571)272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chad Rapp
Examiner
Art Unit 2125

cjr

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100